IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for forming a polysilicon film on a dielectric layer, said method comprising:

providing a semiconductor substrate having a dielectric layer thereon in a reaction chamber;

injecting a first silicon source gas at a first flow rate into said reaction chamber to form a first polysilicon film with a first surface over said dielectric layer; ~~and~~

injecting a second silicon source gas at a second flow rate into said reaction chamber to form a second polysilicon film with a second surface having a higher flatness comparing to said first surface over said first polysilicon film, wherein said second silicon source gas having a different growth rate than said first silicon source gas~~.~~ ; and

patterning said second polysilicon film and said first polysilicon film to remove said second polysilicon film and form a third surface of said first polysilicon layer.

2. (Currently Amended) ~~The~~A method as claimed in claim 1, further comprising:

cleaning ~~a~~ said semiconductor substrate before said dielectric layer is formed thereon~~; and~~

~~forming a dielectric layer on said semiconductor substrate~~.

3. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 2, wherein said cleaning is performed by means of a dilute Hydro-Fluorine ~~DHF~~ solvent to remove native oxide and impurity of said semiconductor substrate surface.

4. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 2, wherein said dielectric layer is a gate dielectric layer.

5. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 4, wherein said gate dielectric layer is silicon dioxide.

6. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 5, wherein said silicon dioxide is formed in the RTO (Rapid Thermal Oxidation) ~~OXIDE~~ oxide chamber.

7. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 6, wherein said silicon dioxide is formed in a temperature range of from 500°C to 700°C and a pressure in a range of from 150 mTorr to 1.5 Torr.

8. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 7, wherein said silicon dioxide ~~with~~ has a thickness of about 15 angstrom to 30 angstrom.

9. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 1, wherein said first silicon source gas is selected from the group consisting of silane (SiH_4), disilane (Si_2H_6), trisilane (Si_3H_8) and dichlorosilane (SiH_2Cl_2).

10. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 9, wherein said first polysilicon film is formed in ~~the~~ a RTO (Rapid Thermal Oxidation) ~~POLY~~ poly chamber.

11. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 1, wherein said injecting a first silicon source gas step is performed for a time period sufficient to form said first polysilicon film with a thickness of about 1000 angstrom to 2000 angstrom.

12. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 1, wherein said second silicon source gases is selected from the group consisting of silane (SiH_4), disilane (Si_2H_6), trisilane (Si_3H_8) and dichlorosilane (SiH_2Cl_2).

13 (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 12, wherein said second polysilicon film is formed in ~~the~~ a RTO (Rapid Thermal Oxidation) ~~POLY~~ poly chamber.

14. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 1, wherein said injecting a second silicon source gas step is performed for a time period sufficient to form said second polysilicon film with a thickness of about 200 angstrom to 1000 angstrom.

15. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 1, wherein a total ~~said polysilicon film~~ thickness of said first polysilicon film plus said second polysilicon film is about 1000 angstrom to 2500 angstrom.

16. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 1, further comprising injecting a third silicon source gas into said reaction chamber, said third silicon source gas having a different growth rate than said first and second silicon source gases.

17. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 16, wherein said third silicon source gas is selected from the group consisting of silane (SiH_4), disilane (Si_2H_6), trisilane (Si_3H_8) and dichlorosilane (SiH_2Cl_2).

18. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 17, wherein said first polysilicon film is formed in the RTO (Rapid Thermal Oxidation) ~~POLY~~ poly chamber.

19. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 16, wherein said injecting a third silicon source gas step is performed for a time period sufficient to form said third polysilicon film with a thickness of about 200 angstrom to 1000 angstrom.

20. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 19, wherein a total ~~said polysilicon film~~ thickness of said first polysilicon film plus said second polysilicon film, said third polysilicon film is about 1500 angstrom to 3000 angstrom.

21. (Currently Amended) A method for avoiding polysilicon film being over-etched ~~abnormal~~, said method comprising:

forming a dielectric layer on a semiconductor substrate;

forming a first polysilicon film over a dielectric layer, wherein said first polysilicon film is formed by a first silicon source gas at a first flow rate and has a first surface;

forming a second polysilicon film over said first polysilicon film, wherein said second polysilicon film is formed by a second silicon source gas at a second flow rate and has a second surface with a higher flatness comparing to said first surface, said second silicon source gas has a different growth rate than said first silicon source gas;

forming a patterned photoresist layer on said second polysilicon film;

performing a dry etching process by ~~way of~~ using said patterned photoresist layer as an etching mask to etch ~~through in turn~~ said second polysilicon film and said first polysilicon film ~~till exposing to said dielectric layer~~ until said second polysilicon film is removed and a third surface of said first polysilicon layer is formed; and

removing said photoresist layer.

22. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 21, further comprising:

cleaning ~~a~~ said semiconductor substrate before forming said dielectric layer ~~; and forming a dielectric layer on said semiconductor substrate~~.

23. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 22, wherein said cleaning is performed by means of a dilute Hydro-Fluorine ~~DHF~~ solvent to remove native oxide and impurity of said semiconductor substrate surface.

24. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 21, wherein said dielectric layer is a gate dielectric layer .

25. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 24, wherein said gate dielectric layer is silicon dioxide.

26. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 25, wherein said silicon dioxide is formed in ~~the~~ a RTO (Rapid Thermal Oxidation) ~~OXIDE~~ oxide chamber.

27. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 26, wherein said silicon dioxide is formed in a temperature range of from 500°C to 700°C and a pressure range of from 150 mTorr to 1.5 Torr.

28. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 27, wherein said silicon dioxide ~~with~~ has a thickness of about 15 angstrom to 30 angstrom.

29. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 22, wherein said first silicon source gas is selected from the group consisting of silane (SiH_4), disilane (Si_2H_6), trisilane (Si_3H_8) and dichlorosilane (SiH_2Cl_2).

30. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 29, wherein said first polysilicon film is formed in ~~the~~ a RTO (Rapid Thermal Oxidation) ~~POLY~~ poly chamber.

31. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 22, wherein said first polysilicon film has a thickness of about 1000 angstrom to 2000 angstrom.

32. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 22, wherein said second silicon source gases is selected from the group consisting of silane (SiH_4), disilane (Si_2H_6), trisilane (Si_3H_8) and dichlorosilane (SiH_2Cl_2).

33. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 32, wherein said second polysilicon film is formed in ~~the~~ a RTO (Rapid Thermal Oxidation) ~~POLY~~ poly chamber.

34. (Currently Amended)) ~~The~~A method as ~~claimed~~ in claim 22, wherein said second polysilicon film has a thickness of about 200 angstrom to 1000 angstrom.

35. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 22, wherein total ~~said polysilicon film~~ thickness of said first polysilicon film with said second polysilicon film is about 1000 angstrom to 2500 angstrom.

36. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 22, further comprising forming a plurality ~~layer~~ of polysilicon films over said second polysilicon

film, wherein each of said ~~plurality layer~~ polysilicon films is formed by a specific silicon source gas with a different growth rate than said first and second silicon source gases.

37. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 36, wherein said specific silicon source gas is selected from the group consisting of silane (SiH_4), disilane (Si_2H_6), trisilane (Si_3H_8) and dichlorosilane (SiH_2Cl_2).

38. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 37, wherein each of said ~~plurality layer~~ polysilicon films is formed in the RTO (Rapid Thermal Oxidation) ~~POLY~~ poly chamber.

39. (Currently Amended) ~~The~~A method as ~~claimed~~ in claim 36, further comprising the steps as follows :

forming a patterned photoresist layer on said ~~plurality layer~~ polysilicon films;

performing a dry etching process by ~~way of~~ using said patterned photoresist layer as an etching mask to etch through ~~in turn~~ said plurality ~~layer~~ of polysilicon films, said second polysilicon film and said first polysilicon film till exposing ~~to~~ said dielectric layer; and

removing said photoresist layer.